CLAIMS

1/ A method for detecting cytochrome c in a given biological sample, comprising :

- adding to said sample an efficient amount of two redox couples allowing for a cycling oxido-reduction of cytochrome c, said couples comprising an oxidizing agent consisting of cytochrome c oxidase enzyme and a reducing agent specific for cytochrome c with a reduced co-factor;
- measuring, by a biophysical system depending on the co-factor and allowing to distinguish the co-factor oxidized form from the reduced form, the oxidation of the co-factor which is oxidized during said cycling redox reaction; the amount of the co-factor oxidized form being correlated to the concentration of cytochrome c in the sample.

2/ The method of claim 1, wherein said measurement is compared to measurements performed with standard cytochrome c.

3/ The method of claim 1 or 2, wherein the reducing agent is NADH-cytochrome c reductase or NADPH-cytochrome c reductase and the reduced co-factor is NADH or NADPH respectively.

4/ The method of claim 1 to 3, wherein the co-factor is detected by absorption spectrophotometry at 340 nm.

5/ The method of any of claims 1 to 4, wherein said agents are, for example but not limited to, under liquid, dried or lyophilised form and obtained by purification of recombinant or natural compounds or by chemical synthesis.

6/ The method of any of claims 1 to 5, optimized for any new screening protocol or adaptaded to any existing screening procedure.

7/ A kit for detecting cytochrome c in sample to be tested, comprising

- two redox couples for a cycling oxido-reduction of cytochrome c, said couples comprising an oxidizing agent

consisting of cytochrome c oxidase enzyme and a reducing agent specific for cytochrome c with a reduced co-factor.

8/ The kit of claim 7, wherein the reducing agent is NADH-cytochrome c reductase and the co-factor is NADH.

9/ The kit of claim 7, wherein the reducing agent is NADPH-cytochrome c reductase and the co-factor is NADPH.

10/ The kit of any of claims 7 to 9, further comprising cytochrome c as a reference standard.

11/ The kit of any of claims 7 to 10, further comprising a buffer.

12/ The kit of claims 7 to 11, wherein said agents are, for example but not limited to, under liquid, dried or lyophilised form, and obtained by purification of recombinant or natural compounds or by chemical synthesis.

13/ The kit of claims 7 to 12, defined for laboratory research only.

14/ The kit of claims 7 to 12, defined for diagnostic use.

15/ The kit of any of claims 7 to 14, optimized for any format of container, for example but not limited to, 96—well microplates, 384-well microplates, 1 mL cuvettes.

16/ The kit of any of claims 7 to 15, optimized for detecting cytochrome c in mitochondrial supernatants.

17/ The kit of any of claims 7 to 15, optimized for detecting cytochrome c in cytosol extracts.

18/ The kit of any of claims 7 to 15, optimized for detecting cytochrome c in any other biological sample expected to contain cytochrome c.

19/ The kit of claim 18, with reagents supplied for the preparation of mitochondrial and/or cytosolic fractions.

20/ The kit of claim 19, with methodology for the preparation of mitochondrial and/or cytosolic fractions.